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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,078	03/01/2000	Zsolt Istvan Hertelendy, Pharm.D.,Ph.D	45061-8	3549

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EXAMINER	
PORTNER, VIRGINIA ALLEN	
ART UNIT	**PAPER NUMBER**
1645	

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/516,078	HERTELENDY, PHARM.D.,PH.D ET AL.	
	Examiner	Art Unit	
	Ginny Portner	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18,22,26 and 32-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18,22,26 and 32* is/are allowed.

6)☒ Claim(s) *33-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 18, 22, 26, 32-36 are pending.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Allowable Subject Matter

1. Claims 18, 22, 26, and new claim 32 define over the prior art of record and are therefore allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. New Claims 33-36 are rejected under 35 U.S.C. 112, first paragraph, as previously applied to claims 7, 12, 21-24, 27-31 because the specification, while being enabling for compositions that comprise a suppository base that comprises both polyethylene glycol and polysorbate together with a microbial pathogen or adjuvants for induction of an immune response, and specific vaccine compositions that comprise whole bacterial pathogens or known vaccine antigens, and viruses excluding HIV virus for induction of a prophylactic immune response, does not reasonably provide enablement for the administration of any vaccine adjuvant (claim 7,21-23 and 27-29), or any suppository composition based delivery system that comprises any whole microbial pathogens (claim 12 , 24, 30-31), or any antigen, or nucleic acid that

encodes an antigen derived therefrom for induction of a protective prophylactic immune response and used for the stimulation of a protective immune response that prevents (prophylactic) infection. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The specification fails to teach how to formulate and use the claimed vaccines. The term "vaccine" encompasses the ability of the specific antigen to induce protective immunity to infection or disease induction. The specification teaches various sources for antigens to include viral, bacterial and microbial, and claims any and all whole cellular constituents to induce either cellular or humoral immune responses for induction of a protective prophylactic immune response.

The specification does not provide substantive evidence that any whole antigen, in any amount, administered to any bodily orifice, to include vaginal administration, or urogenital administration, would be capable of inducing protective immunity. This demonstration is required for the skilled artisan to be able to use the claimed vaccines for their intended purpose of preventing infections caused by a pathogen of a human or animal. Without this demonstration, the skilled artisan would not be able to reasonably predict the outcome of the administration of the claimed vaccines, i.e. would not be able to accurately predict if protective immunity has been induced.

The ability to reasonably predict the capacity of a whole cell microbial composition, albeit a bacterial, viral or microbial cell, to induce protective immunity from in vitro antibody reactivity studies is problematic. Ellis exemplifies this problem in the recitation that "the key to

the problem (of vaccine development) is the identification of a protein component of a virus or microbial pathogen that itself can elicit the production of protective antibodies"(page 572, second full paragraph). Boslego (1991) shows a gonorrhea vaccine that was of a microbial pathogen that induced an immune response, but was not prophylactic, protective upon challenge (see page 212, col. 2, paragraphs 2-5). Orkin et al (1995) is cited to show unpredictability of nucleic acid based vaccines, absent specific guidance.

Unfortunately, the art is replete with instances where even well characterized antigens that induce an in vitro neutralizing antibody response fail to elicit in vivo protective immunity. Cruz et al (Current Pharmaceutical Design, 2004) provides data on the vaginal administration of whole cell Lactobacillus to prevent HIV viral infection, and found that this composition was ineffective to accomplish the desired protective effect (see Table 1, Vaginal Fortifiers, suppository, page 320; and sections 9.3 and 9.3.1, page 328 "did not improve clinical cure rates" "development was suspended following the failure of CTV-05 to meet its clinical end-point in phase II trials"). Lacombe et al (Vaccine, 2004) teaches a whole cell pertussis vaccine failed to provide prophylactic protection (see page 627, col. 1, Section 4. Discussion "Increasing intensity of exposure to pertussis was associated with a higher failure rate of both vaccines"). Sutjipto et al (Journal of Virology, 1990) teaches that inactivated Simian Immunodeficiency virus vaccine failed to protect monkeys, when the vaccine was administered by a genital mucosal route, from infection. Accordingly, the art indicates that it would require undue experimentation to formulate and use a successful whole cell vaccine without the prior demonstration of vaccine efficacy.

The specification fails to teach the identity of what whole cells, antigens and/or nucleic acids as well as whole cell mutants (definition provided in instant Specification at page 10, paragraph 3), to induce protective immunity, albeit cellular or humoral immunity. Further, the

specification fails to provide an adequate written description of what surface antigens, or nucleic acid sequences or whole cell compositions in order to induce a prophylactic immune response to provide a vaccine effect in any human or animal.

The skilled artisan would be required to de novo locate, identify and characterize the claimed whole cells, antigens and nucleic acids (definition provided in instant Specification page 3) now claimed. This would require undue experimentation given the fact that the specification is completely lacking in teachings as to what single whole antigens, mutated whole cell antigens or combinations of whole cell antigens or mutated antigens or nucleic acids that would contain the claimed characteristics and could be used in a method of inducing an immune response that prevents infection.

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginny Portner whose telephone number is (571) 272-0862. The examiner can normally be reached on M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on (571) 272-0864. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vgp
December 29, 2005

MARK NAVARRO
PRIMARY EXAMINER